Abstract

The present invention is a method for inter—cluster communication that employs register permutation by dynamically mapping the registers to the functional units. Because only the mapping between registers and functional units is changed and no actual data movement occurs, the present invention greatly diminishes the power consumption. Owing to the inter-cluster communication mechanism, a centralized register file can be replaced with small register sub-blocks, where the silicon area is greatly reduced, and the access time and the power consumption are also diminished.

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